CX3000
Complete Air Purification System
Whole House Unit
[Duct Mounted]

User's Guide

Read and save these Instructions

Continental Fan Manufacturing Inc.
Buffalo, NY, U.S.A.

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IMPORTANT SAFETY INSTRUCTIONS

Before installing the CX3000 purifier, inspect for any signs of damage. During handling and installation, **take care to protect the catalytic honeycomb side** of the product from physical damage, as the aluminum-titanium core is very soft and can be easily damaged.

Warning - Always unplug the power cord from the CX3000 air purifier when changing the **filter** or ultraviolet lamps. Never look into a burning ultraviolet lamp without proper eye protection as severe damage to the eyes can result. This product is rated for standard ambient air temperatures during heating and air-conditioning functions and not rated for elevated air temperatures in excess of 125 degrees fahrenheit.

Do not attempt to **clean the catalytic honeycomb core** with cleaning solutions. The catalyst is radiated with short wave ultraviolet light during periods of non-air flow and is self-cleaning.

Do not install insulation within 76MM or 3 inches of Luminaries.

Access for service is required when mounting above ceilings or behind walls.

Do not install in a position where the **interior module can fall** from an elevated position and cause injury to people or equipment below.

SPECIFICATIONS

Manufacturer:	Continental Fan Manufacturing Inc.
Model:	CX3000
Voltage:	1/120V/60
Dimensions:	21" W x 25" H x 10.25" D
Amps:	0.38
Watts:	44.8
Caution:	Risk of fire - replace only with SP20T10 / 20 watt UV-C lamps
Fuse:	Replace only with AGC-l fuse
Max Face Velocity:	625 fpm
Max Air Flow:	2170 cfm
UV Range:	254 NM (germicidal)
Weight:	42 LBS
Application:	3000 Sq. Feet
Catalyst:	Titanium Dioxide
Particle Filter:	Electrostatic Needled MERV -11
Service:	UV LAMPS - 1 year FILTERS - 6 months

OPERATION

The CX3000 installs in the **air-inlet side of any heating and air conditioning system,** up to five tons in size. Operation of the air-handler fan unit is required for air purification and sterilization to take place.

Note: The ultraviolet lamps are wired to operate continuously. This feature allows the catalyst to burn off surface impurities, while cleaning and reactivating itself during periods of no airflow. The cost of operation is less than .07 cents per day. See operating cost section.

The CX3000 combines **three unique technologies** to protect people against indoor air pollutants. **Photo-Catalytic Titanium Oxidation,** combined with high efficiency **electrostatic MERV-11 particulate filtration,** and **germicidal ultraviolet lights,** quickly reduce and eliminate toxic gas phase chemicals, lung damaging dust and airborne germs from the living environment.

Many new homes have smart programmable thermostats that allow for automatic operation of the air-handler fan unit when there is no demand for heating or air conditioning. It is **important that the CX3000 operates at least (25) minutes per hour (24) hours per day** to remove toxic materials from the indoor environment.

The length of operation depends on the location of the home or office in relation to point source pollution such as refineries, processing plants, automobile traffic, and areas that produce high levels of pollen. Individuals that are sensitive to mold spores, dust mites and chemicals, or have respiratory problems such as asthma, emphysema, and chronic allergies, should extend the run time to at least (40) minutes per hour.

To obtain maximum benefit from the CX3000 air purification system, it is recommended that the air-handler fan be set to run continuously.

CYCLE TIMES

AIR CYCLES PER HOUR

(Based on 3000 sq. ft.)

Fan unit on 10 minutes per hour	Air cycled (1) -------- times per hour
Fan unit on 15 minutes per hour	Air cycled (1.3) ------ times per hour
Fan unit on 20 minutes per hour	Air cycled (1.75) ---- times per hour
Fan unit on 30 minutes per hour	Air cycled (2.62) ---- times per hour

AIR CYCLES PER DAY

Fan unit on 10 minutes per hour	Air cycled (24) ------- times per day
Fan unit on 15 minutes per hour	Air cycled (31) ------- times per day
Fan unit on 20 minutes per hour	Air cycled (42) ------- times per day
Fan unit on 30 minutes per hour	Air cycled (63) ------- times per day

Note: In the event the existing thermostat does not have the capability to operate the air-handler fan unit independently of a demand for heating or air-conditioning, it is highly recommended that an **(Air Cycler)** be installed.

This device is simply wired in parallel with the existing thermostat wire and can be programmed to turn on the air handler fan unit for any desired interval. A memory tracks the time the fan unit operates every hour and only cycles the fan unit that hour if normal requirements for heating and air conditioning have not cycled the fan unit long enough to meet air purification requirements.

The **Air Cycler** can be sourced from **Shelter Supply, Lakeville, MN (1-800-762-8399)** or **(www.Air Cycler.com)** on the web.

COST OF OPERATION

Electricity cost per kilowatt hour	.06 kw hr.	.08 kw hr.	.10 kw hr
CX3000 (32.25 kw hours) per month =	$1.93	$2.58	$3.22

During periods where the fan unit is being operated for the sole purpose of air purification, running a 1/2 horsepower fan unit will add approximately $5.36 per month to the normal operating cost. However, this cost is easily offset in savings on medication, doctors office visits, mechanical maintenance and cleaning of fan units, refrigeration coils, dirty air ducts, and last but not least, less house cleaning.

SERVICE

The CX3000 comes with a built-in computerized service panel to automatically keep track of service intervals. Indicator lights will tell you when to change filter and ultraviolet lamps (30) days in advance.

MERV-11 Filter . . . . . change every (6) months . . . . . service light turns from green to yellow after five months, and to red after six months.

UV Lamps . . . . . change every (12) months . . . . . service light turns from green to yellow after eleven months, and to red after twelve months.

CHANGING THE FILTER

1 . Unplug the power cord from the CX3000. Unscrew the two locking knobs and pull out the inner module.
2. Loosen Phillips head screws on filter retainer plates and remove plates - **Fig - 1**
3. Remove old filter and replace with new filter. Make sure airflow arrow on filter is pointing to the inside of module.
4. Replace filter retainer plate and tighten Phillips head screws.

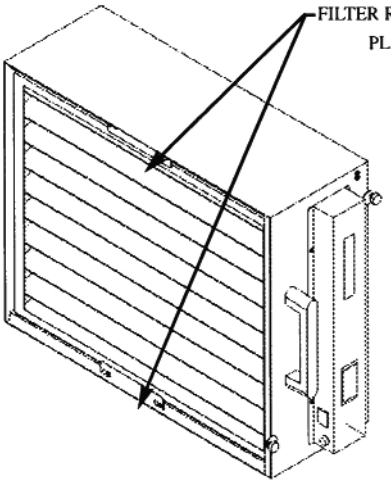


FIG. - 1

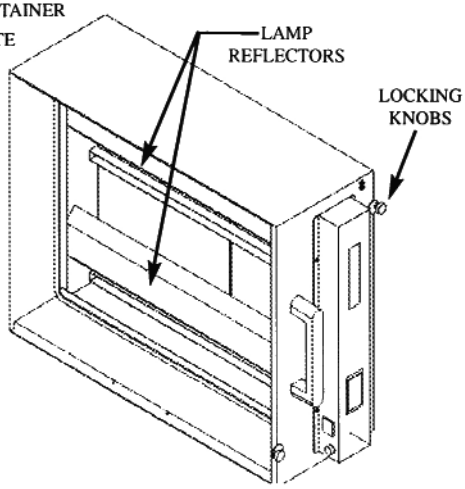


FIG. - 2
FILTER REMOVED

CHANGING THE UV LAMPS

1 . Remove filter as in **Fig. - 1.**
2. Reach inside and rotate UV lamp 1/4 turn in either direction and remove. **Fig. - 3**
3. Carefully place new lamp back into inner case so that the pins line up with the slot on lamp holders at each end. **Fig. - 4**
4. Slide the new lamp down into the lamp holders and rotate 1/4 turn.
5. Replace filter and slide module into outer case. Tighten locking knobs finger-tight.
6. **IMPORTANT: Make sure AIR FLOW arrow on filter is facing the air-inlet side of the air handler.**
7. Plug in power cord and check sight ports for lamp illumination.

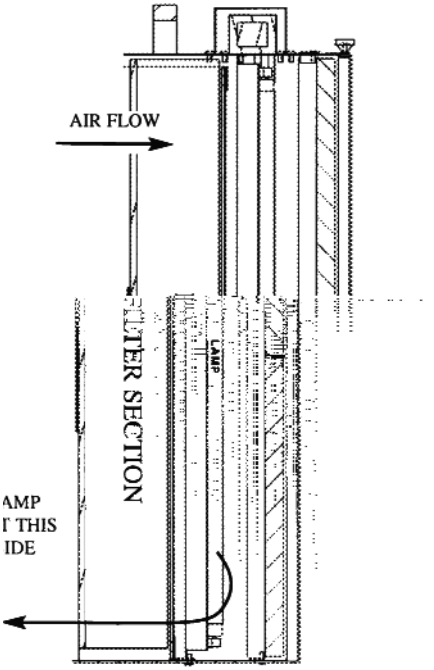


FIG. - 3

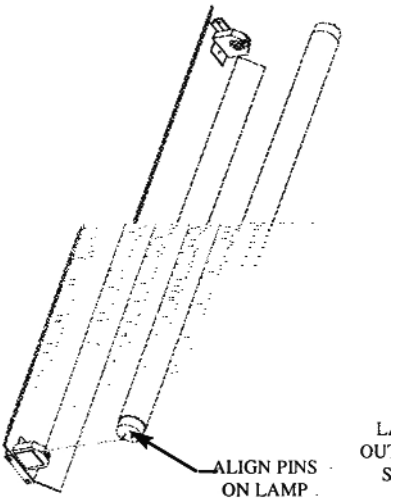
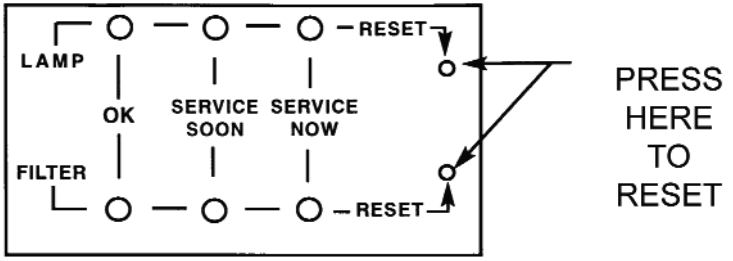


FIG. - 4

RESETTING THE SERVICE LIGHTS

On the right side of the service panel, there are arrows pointing to two small holes marked **RESET**. One is marked **FILTER,** and one is marked **LAMP**. Insert a pin or similar object into the hole corresponding to the replacement component, and push lightly until the service light returns to the green position. The computer is now reset. **Fig. - 5**



SERVICE PANEL

FIG. -5

REPLACEMENT FILTERS AND ULTRAVIOLET LAMPS

Replacement components are available in the form of a yearly replacement kit,
comprising (2) filters and (1) set of UV lamps. Replacement kits are available from your local HVAC wholesaler.

INSTALLATION

Make sure to install the CX3000 so that the inlet, or return air, enters the side containing the MERV-11 particle filter first. **Fig. - 6**

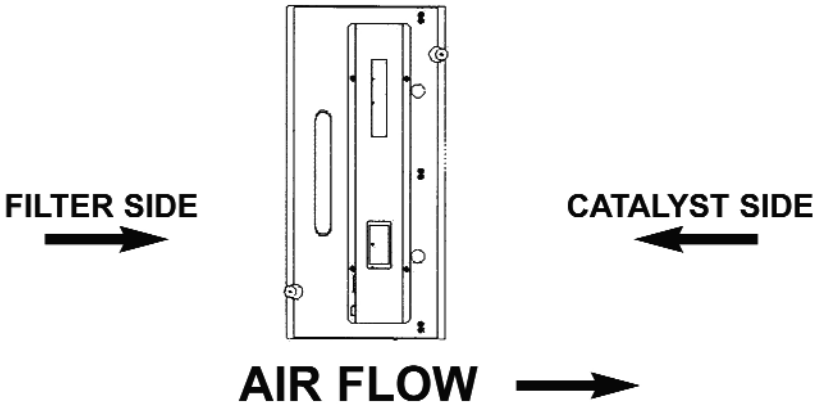


FIG. -6

1. Unscrew the two locking knobs and remove the inside module from the outer case.
2. Take care not to bend or distort the outer metal enclosure.
3. Mount the outer case to the support plenum. **Note: Do not use a screw length that will extend into or penetrate the inside module containing the catalyst or filter.**
4. In some cases, the foot print of the air handler may be larger or smaller than the outer enclosure of the CX3000. A metal adapter plate of 18 ga. sheet metal should be fabricated to make a suitable transition. **Fig. - 7**

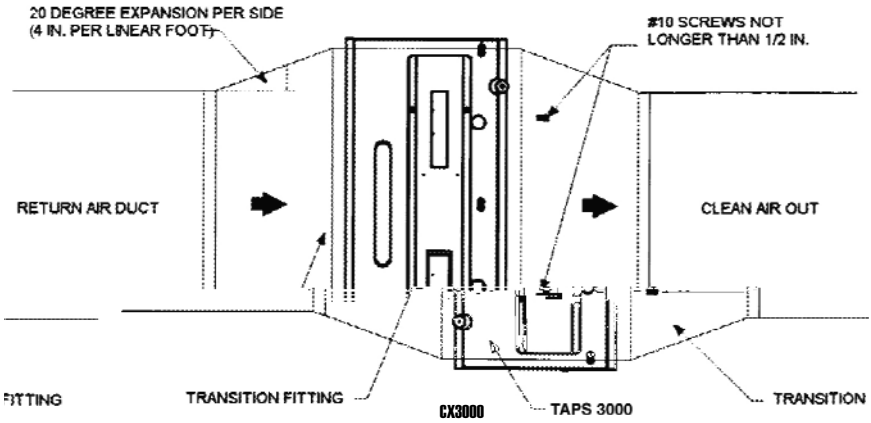


FIG. - 7
TRANSITIONS FOR
IN-DUCT MOUNTING

5. Tape all seams between the air handler and the outlet side of the CX3000 so there can be no air bypassing the system.
6. Attach the air handler to the outlet side of the CX3000, and fasten with #10 x 3/8 self-drilling sheet metal screws. **NOTE:** Only 1/2 inch of clearance has been provided between the outer and inner case.
7. Slide the inner module into the outer encasement and tighten locking knobs finger-tight. Make sure the inner module will freely slide in and out of the outside enclosure.
8. Plug in the power cord to any **120vac outlet** and check both sight ports to make sure both lamps are illuminated. Ultraviolet lamps must **remain on** at all times regardless of thermostat or Air Cycler settings.
9. Check the service panel. The LED lights should flash in sequence for 15 seconds and then return to green. The filter lamp should be **flashing green** and the UV lamp light should be a **steady green**.
10. Set the thermostat or the Air Cycler to operate the fan unit for at least **25 minutes every hour**. If air quality problems persist after one week, increase the fan unit operating time by (5) minute intervals.

TYPICAL VERTICAL AND HORIZONTAL INSTALLATION

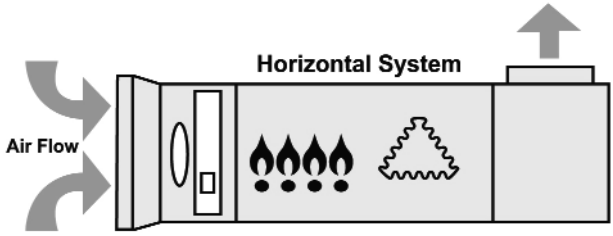


FIG. - 8

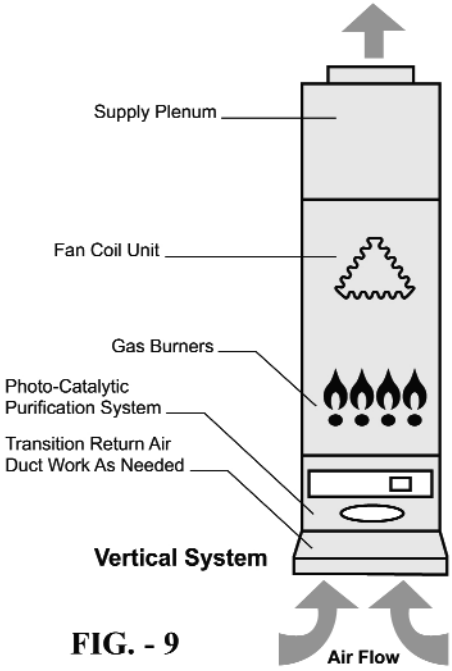


FIG. - 9

LIMITED LIFETIME WARRANTY

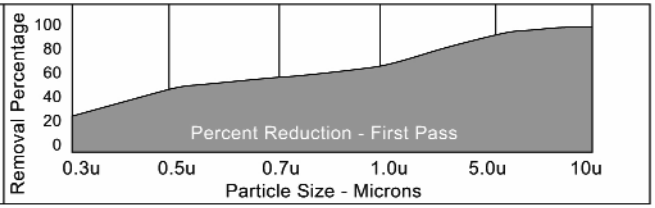
Each **CX3000 Complete Air Purification System** comes with a **limited lifetime warranty,** excluding expendable parts such as filters and UV lamps. This warranty provides for repair or replacement of any defective parts or components for two years from the date of purchase at no charge for labor or materials. This warranty does not cover the expendable UV lamps, which **must** be replaced on an annual basis (1-year), or the expendable filter cartridge media, which **must** be replaced every six months. Continental Fan Manufacturing Inc. is not responsible for the installation of this product. This warranty does not cover faulty installation or damage to personal property resulting from incorrect or faulty installation. This warranty does not cover the cost for removal or reinstallation of the CX3000 when service or warranty work is required. All warranty repair work must be performed either at the factory or by a factory certified service center. Shipping cost to the factory or service center is the responsibility of the owner of the CX3000. To return product for warranty repair, the customer must first contact the factory for a Return Materials Authorization (RMA) number and a ship to address, as it may differ from the manufacturing location. For material repaired under warranty, shipping costs to the customer will be prepaid for the first two years only. This warranty is provided to the original purchaser of the CX3000, and may not be transferred, sold or bartered. This product is not warranted against freight damage, failure resulting from misuse, connection to incorrect voltage, or acts of God such as fires, earthquakes, or floods.

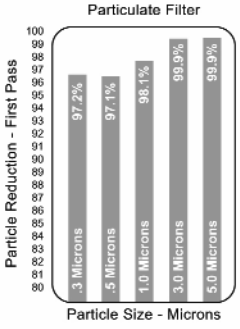
PERFORMANCE DATA AND APPROVALS

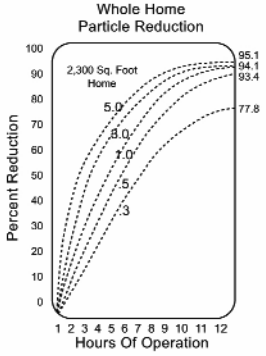
CX3000

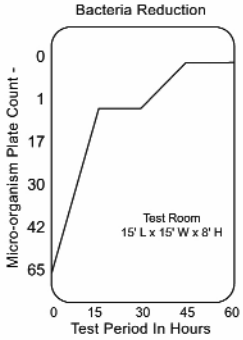
	Air Flow (cfm)	Resistance (in w.g.)	Air Velocity (fpm)
Air flow & Resistance Data	1250	0.18	360
	1500	0.20	432
	1750	0.25	504
	2000	0.35	576
	2250	0.42	648
	2500	0.55	720

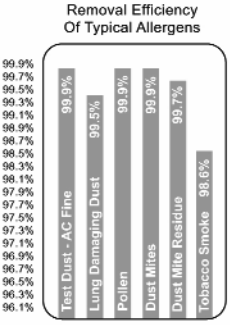
Particle Size Efficiency Graph:

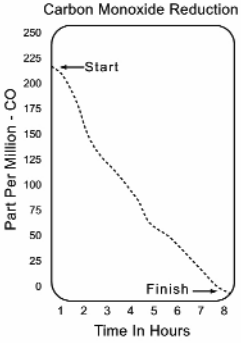










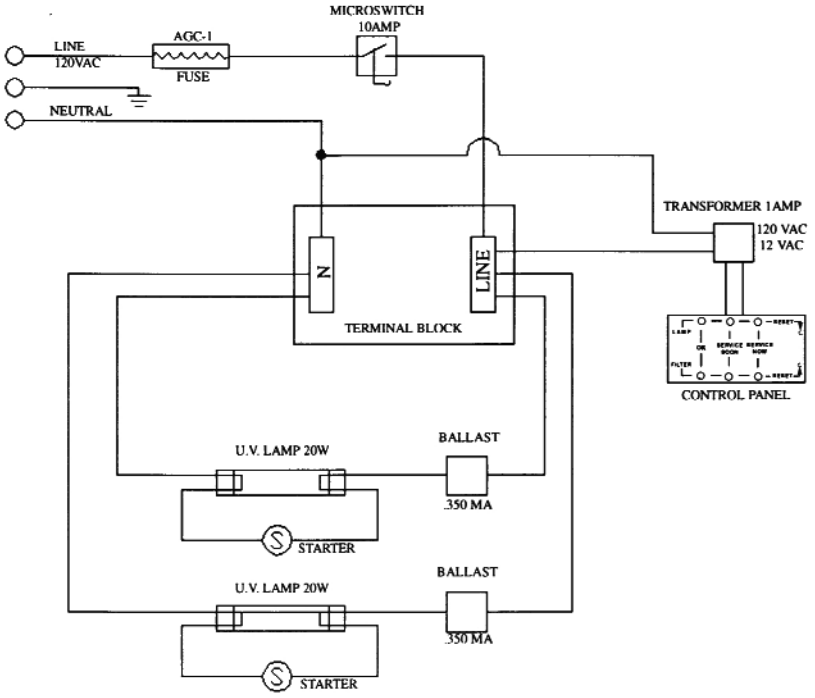


ELECTRICAL TESTING LABORATORIES
UNITED STATES

ELECTRICAL TESTING LABORATORIES
CANADA

WIRING DIAGRAM

CX3000



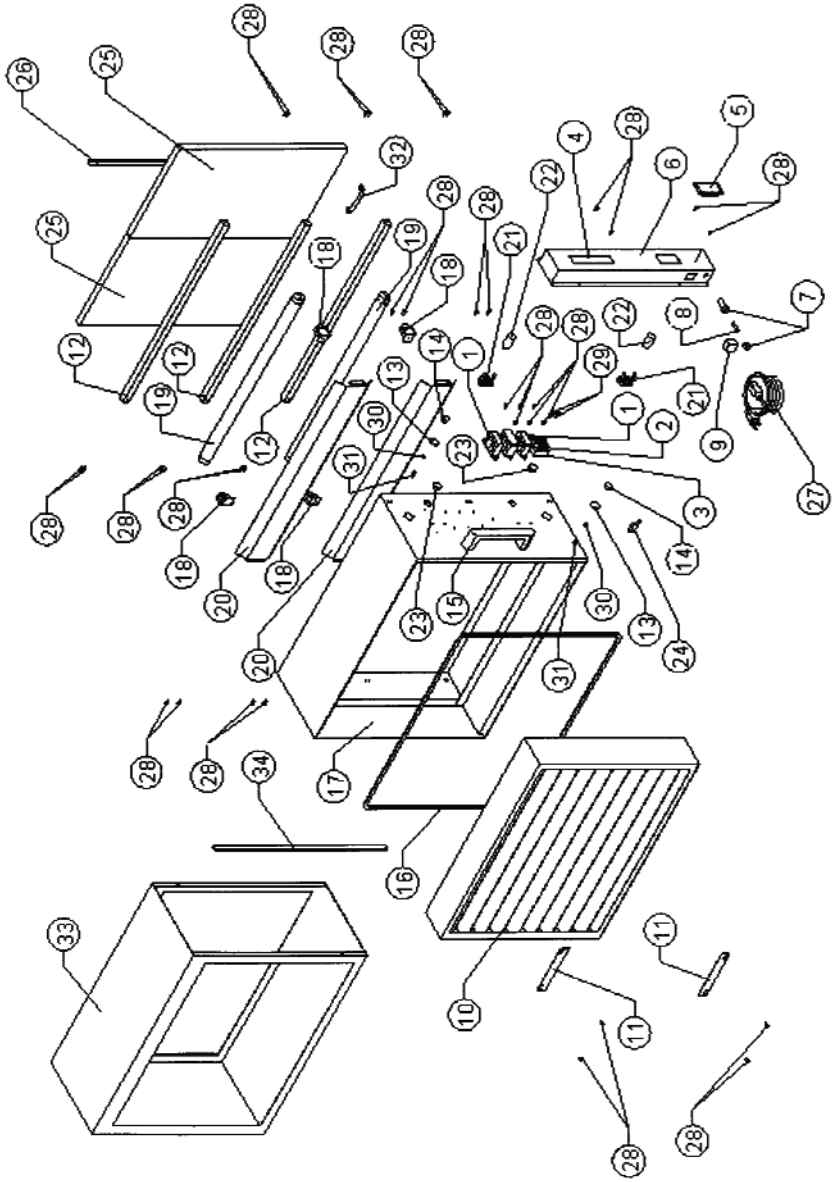
PARTS LIST

CX3000

ITEM	PART	QTY	DESCRIPTION
1	BL002	2	120 V 60 Hz. 420MA Ballast
2	BL007	1	120V 60Hz 12V 1-Amp Transform
3	EL018	1	Electron Terminal Block
4	LB016	1	CFM Embossed Label
5	EL029	1	Duct Display Board
6	MT042	1	Duct Control Cover
7	EL000	1	Fuse Holder
8	EL001	1	Fuse
9	EL028	1	Duct Electrical Receptacle
10	F1016	1	Power Guard PWG-404 Filter
11	MT014	2	Filter Holding Brackets
12	MT039	3	Duct Braces
13	HD072	2	Brass Key Tag
14	HD066	2	Plastic Lock Knob
15	HD065	1	Southco B8-66 Handle
16	FS00	1	1 3/16 T x 3/8 W Foam Tape
17	MT044	1	Duct Filter Enclosure Assembled
18	EL027	4	Lamp Socket
19	LT012	2	20 Watt UV Lamp
20	MT040	2	UV Lamp Reflector
21	EL014	2	#125-5 Starter Holder
22	EL015	2	FS5C Starter
23	HD029	2	Window Plug
24	EL016	1	Micro Switch
25	AL000	2	Aluminum Honeycomb Grid
26	AL002	1	1/2 Face T-Molding
27	CD009	1	Detachable Power Cord
28	HD002	34	10-32 x 3/8 PP. Type F
29	HD067	2	10-32 x 3/4 P.P. Type F
30	HD073	2	8-32 Hex Nut
31	HD074	2	8-32 x 1/2 RR Machine Screw
32	MT013	1	PVC Spring Clip
33	MT043	1	Duct Filter Cabinet Enclosure
34	FS000	1	1/2 Foam Seal Tape

EXPLODED VIEW

CX3000



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